

Table 27. U.S. Nitrous Oxide Emissions from Solid Waste of Domesticated Animals, 1990-2002

Source	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	P2002
Thousand Metric Tons Nitrous Oxide													
Cattle.....	194	196	198	200	204	206	205	200	197	195	194	192	192
Swine.....	5	5	5	5	6	5	5	6	6	6	5	6	5
Poultry.....	3	3	3	4	4	4	4	4	4	4	4	4	4
Sheep.....	3	3	3	3	3	3	3	2	2	2	2	2	2
Goats.....	1	1	1	1	1	1	1	1	1	1	1	1	1
Horses.....	2	2	2	2	2	2	2	2	2	2	3	3	3
Total.....	209	211	214	216	220	222	220	216	213	211	209	208	207
Million Metric Tons Carbon Dioxide Equivalent													
Cattle.....	58	58	59	59	60	61	61	59	58	58	57	57	57
Swine.....	1	2	2	2	2	2	2	2	2	2	2	2	2
Poultry.....	1	1	1	1	1	1	1	1	1	1	1	1	1
Sheep.....	1	1	1	1	1	1	1	1	1	1	1	1	1
Goats.....	*	*	*	*	*	*	*	*	*	*	*	*	*
Horses.....	1	1	1	1	1	1	1	1	1	1	1	1	1
Total.....	62	62	63	64	65	66	65	64	63	62	62	61	61

*Less than 0.5 million metric tons carbon dioxide equivalent.

P = preliminary data.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Estimates presented in this chapter. Nitrogen content of waste by species, manure management systems, and emissions coefficients from Intergovernmental Panel on Climate Change, *Greenhouse Gas Inventory Reference Manual: Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, Vol. 3 (Paris, France, 1997), pp. 4.89-4.107, web site www.ipcc.ch/pub/guide.htm. Population data for horses and goats extrapolated from U.S. Department of Commerce, Bureau of the Census, *Census of Agriculture* (1982, 1987, 1992, and 1997). All other animal populations from U.S. Department of Agriculture, National Agricultural Statistics Service, web sites www.usda.gov/nass/pubs/histdata.htm and www.nass.usda.gov/ipedbv/. Typical animal sizes from U.S. Environmental Protection Agency, Office of Air and Radiation, *Anthropogenic Methane Emissions in the United States: Estimates for 1990* (Washington, DC, April 1993), p. 6-8. Cattle sizes adjusted by annual slaughter weight from U.S. Department of Agriculture, National Agricultural Statistics Service.